

USSR

UDC: 621.374.32

ANDREYEV, P. P., BELOV, A. P., KURKOV, Ye. V., and DOTSENKO, Yu. Yu.

"Problems in the Design of Digital Computer Circuits"

Tr. Soyuz. NII priborostr. (Transactions of the Union of Scientific Research Institutes of Instrument Construction) No 18, 1972, pp 65-73 (from RZh--Avtomatika, telemekhanika i vychislitel'naya tekhnika, No 2, 1973, Abstract No 2A494)

Translation: Problems of improving the operational speed and reliability of single-channel computer devices as the result of the use of more optimal unit circuitry are considered. Three illustrations, bibliography of four. Resume

1/1

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USSR

UDC 547.816'759.5'787.37

ZAYTSEVA, Ye. L., FROHODA, A. L., KURKOVSKAYA, L. N., SHIFFINA, R. R., KARDASH, N. S., DRAPKINA, D. A., KRONGAUZ, V. A., Institute of Physical Chemistry Scientific Research imeni L. Ya. Karpova, USSR Institute of Chemical Reagents and Study of Very Pure Substances, Moscow

"Preparation of N-Methacryloyloxyethyl Derivatives of Spiropyranes of the Indoline Series"

Riga, Akademiya Nauk Latvinskoy SSR, Himiya Geterotsiklicheskikh Soedinenii, No 10, Oct 73, pp 1362-1369

Abstract: The synthesis of 3a,4,4-trimethyloxyazolidino(3,2-a) indoline (III) from 2,3,3-trimethylindoline and 1-bromo-2-ethanol is described. Reacting III with 5-nitro and 3-methoxy-5-nitrosalicylic aldehyde gives 1-(β -hydroxyethyl)-3,3-dimethyl-6'-nitrospiro(indoline-2,2'-(2H-1)benzopyran), V, and 1-(β -hydroxyethyl)-3,3-dimethyl-6'-nitro-8'-methoxyspiro(indoline-2,2'-(2H-1) benzopyran), VI, while reacting III with 3-nitrosalicylic aldehyde gives 4,4-dimethyl-3a-(2-hydroxy-3-nitrostyryl)oxazolidino (3,2-a)indoline, VII. V and VII react with methacrylic acid chloride in pyridine to give 1-(β -methacryloyloxyethyl)-3,3-dimethyl-6'-nitrospiro(indoline-2,2'-(2H-1)benzopyran) and 4,4-dimethyl-3a-(2-methacryloyloxy-3-nitrostyryl)oxazolidino (3,2-a)indoline, respectively. If V is reacted 1/2

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ZAYTSEVA, Ye. L., et al., Akademiya Nauk Latvinskoy SSR, Himiya Geterotsiklicheskikh Soedinenii, No 10, Oct 73, pp 1362-1369

with methacrylic acid chloride in acetone, 4,4-dimethyl-3a-(2-methacryloyloxy-5-nitrostyryl)oxazolidino(3,2-a)indoline results. A discussion of the NMR, IR and electronic spectroscopic structure determinations as well as a discussion of the photochromic behavior of these compounds in various organic solvents is given.

2/2

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USSR

UDC 611.81-091-073.753.1]57.085:599.325

KURKOVSKIY, V. P., and SMIRNOV, R. V., Laboratory of Neurohistology and Department of Radiology, Leningrad Scientific Research Institute of Neurosurgery imeni Professor A. L. Polenov

"Morphological Changes in Rabbit Brain After Fractional Irradiation of the Head by Fast Electrons"

Leningrad, Arkhiv Anatomii, Gistologii, i Embriologii, Vol 62, Vyp 3, 1972, pp 58-65

Abstract: Seven rabbits were irradiated with doses of 400 rad/treatment every other day for 25-74 days with a 100 rad/min electron beam (20 Mev) directed at the right eye socket, through the brain to the left ear, in order to study brain morphological changes that may occur through electron therapy on humans. Brain tissue from sacrificed animals was fixed, stained, sectioned, and observed under a light microscope. Two rabbits were sacrificed 1 month after termination of treatment (total doses 6,000 and 12,800 rad) due to acute external manifestations. Inflammation and infiltration of brain matter and meninges by polyblasts and plasma cells was detected. Externally the remaining rabbits manifested only minor, localized depilation and skin pigmentation. A rabbit receiving 6,400 rad total dose suffered only gliosis of the right optic 1/2

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KURKOVSKIY, V. P., and SMIRNOV, R. V., Arkhiv Anatomii, Gistologii, i Embriologii, Vol 62, Vyp 3, 1972, pp 58-65

nerve 6 months 24 days after treatment termination. There were no significant changes in rabbits receiving 5,200 and 6,800 rad total doses, inspected 5 months after treatment termination. Five months after treatment termination the last two rabbits (14,900 and 15,200 rad total doses) had hemorrhaging, degeneration and necrotic foci in parenchyma and stroma (predominantly in the white matter), and intensive neuroglial development. Astrocytes fused into perifocal neuroglia were linked with a probable degenerate tissue removing function.

2/2

USSR

UDC 616-001.29

SMIRNOV, R. V., and KURKOVSKIY, V. P., Leningrad Scientific Research Institute of Neurosurgery imeni A. L. Polenov

"Relative Biological Effectiveness of Electrons With An Energy of 20 Mev Assessed from Necrosis of Rabbit Brain Tissues"

Moscow, Doklady Akademii Nauk SSSR, No 4, 1971, pp 954-955

Abstract: The brains of rabbits were irradiated once with x-rays (3,500, 4,000 and 500 rads), once with electrons with an energy of 20 Mev (3,300, 4,000, 5,000, 6,250 and 8,000 rads), or fractionally with electrons with an energy of 20 Mev (5,200, 6,400, 6,800, 8,000, 10,400, 14,900, and 15,200 rads) 400 rads per session three times a week. Histological examination of brain sections from the animals sacrificed 5 to 8 months after irradiation revealed signs of degeneration of the nerve cells and necrotic foci; the intensity of the changes were most pronounced in the animals irradiated once and were in proportion to the dose received. The smallest doses of electron radiation that caused necrosis was 10,400 rads after 60 days' when applied fractionally and 6,250 rads when applied once. The smallest dose of x-radiation to cause necrosis was 4,000 rads. The relative biological effectiveness of electrons with an energy of 20 Mev is therefore 0.64 ($4,000 \div 6,250$).

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USSR

GRINBERG, N. A., KURKIDZHILI, E. G., and LIVSHITS, L. S., All-Union Scientific Research Institute of the Construction of Main Pipelines

"Effect of Austenite on the Properties of Some Near-Resistant Alloys"

Moscow, Metallovedeniye i Tekhnicheskaya Obrabotka Metallov, No. 1, 1966, pp. 66-67

Abstract: It is shown that the amount of austenite in near-resistant alloys affects their properties. The nature of the effect depends on the chemical composition of the alloys and the quantity of solid phases. With an increase of solid phases up to 25%, an increase in the amount of austenite results in an increase of the impact resistance of alloys. The hardening effect is insignificant when the amount of austenite does not exceed 40%. With solid phase contents above 30%, an increase in the amount of austenite results in an increase of the impact resistance of the alloy. Austenite in the alloy results in an increase in the content of austenite increases the wear resistance. The results of stronger fixing of solid particles in the alloy. The maximum wear resistance is attained at 15-18% austenite (G-3. N. A. Kurkizhili). Larger quantities of nickel is not feasible since an increase in the amount of austenite above the cited levels does not raise the wear resistance.

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USSR

UDC 533+536.423.1

KURLAPOV, L. I., MARTYNOVA, G. P.

"Viscosity Coefficients of Multicomponent Gas Mixtures"

V sb. Fizika (Physics -- Collection of Works), No 5, Alma-Ata, 1971, pp 123-127 (from RZh-Fizika, No 1, Jan 73, Abstract No 1Ye53)

Translation: The classical concept of free path length (the Maxwell-Boltzmann theory) is applied to describe the viscosity of multicomponent gas mixtures, and the calculations are carried out for three- and two-component mixtures. The calculations are within the limits of the error with experimental data available in the literature. Authors' abstract.

1/1

USSR

UDC 533+536.423.1

VYSHENSKAYA, V. F., KOSOV, N. D., KURLAPOV, L. I., MARTYNOVA, G. P.

"Study of the Dependence of the Coefficient of Mutual Diffusion of a Helium-Carbon Dioxide System on Concentration"

V sb. Fizika (Physics -- Collection of Works), No. 5, Alma-Ata, 1971, pp 78-80 (from RZh-Fizika, No 1, Jan 73, Abstract No 1Ye45)

Translation: The coefficient of mutual diffusion in the entire concentration interval was measured by a stationary method for a concentration difference of ~ 0.1 . A considerable decrease was noted in the coefficient of mutual diffusion with a decrease in CO_2 concentration from 0.1 to 0. The coefficient of mutual diffusion of this system can be considered constant in the CO_2 concentration interval 1-0.1. Authors' abstract.

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MEDICINE

PPD:50VLTZ MCHMCA

19. USIA

2. 2. 2.

ANDERSON, LAWRENCE. 25 DEC 76. P 4

FRENCHMAN, A. H. ELLIOTT, HEAD OF THE CHAIR OF THE CHEMISTRY OF LIQUIDS AND CRISTALLOGRAPHY, HAS BEEN THE FIRST IN THE LIST OF THE CHAIRS OF THE CHEMISTRY OF LIQUIDS AND CRISTALLOGRAPHY OF THE INTERNATIONAL ACADEMY OF PURE AND APPLIED CHEMISTRY (IAPAC).

The International Academy of Wood was created in 1966, and its main purpose is the coordination and co-ordination of scientific research directed to the promotion of forest renewal and the procurement and use of wood. There are 100 representatives of states from many countries in IAW.

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20. CUSK

Warrant #19140

POPOV, Nikolayevna. Obitel', 1 Sep 70, p 1

transmission by means of the reaction of the known Tritic DES, the title compound. The reaction of the title compound with the known Tritic DES, the title compound, has been carried out in the following manner: The title compound, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831

By letter of the President of the Supreme Soviet dated 28, the title Doctor of Medicine has been awarded to M. Palyukhin for long and productive services in medical institutions of the Civil Ministry of Internal Affairs.

By decree of the Presidium of the Supreme Soviet of the USSR, the title honored physician (rank 22) has been awarded to the following for services in public health:

1. A. A. Solov'ev, head of the Infection Division of Departmental Byuro Hospital, Chelmskaya Oblast'; 2. A. G. Gulyayev, physician of district hospital, Kostanayskiy rayon, Kazakhskaya Oblast'; 3. D. D. Shchegolev, chief physician of the orthopedic clinic, Izvestnyy Byuro, Chelmskaya Oblast'; 4. S. S. Semenovskiy, chief physician of the medical-industrial sector of the Machine Building Plant and "Vostok", Tsel'inskaya Oblast'.

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1/2 035 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--OPTICAL SENSITIVITY AND POLARIZABILITY ANISOTROPY OF CROSSLINKED
POLYSILOXANES -U-
AUTHOR--(04)--RISKINA, M.A., SUKOLOV, S.I., VARAKSIN, M.E., KURLOVA, T.V.
COUNTRY OF INFO--USSR
SOURCE--VYSOKOMCL. SOEDIN., SER. A 1970, 12(4), 890-4
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--POLYSILOXANE, BENZENE DERIVATIVE, NITRILE, FLUORINATED ORGANIC
COMPOUND, ELASTOMER, ANISOTROPY, OPTIC PROPERTY, POLYMER CROSSLINKING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/0681

STEP NO--UR/0459/70/012/004/0890/0894

CIRC ACCESSION NO--AP0124353

UNCLASSIFIED

2/2 035 UNCLASSIFIED PROCESSING DATE--30OCT70
 CIRC ACCESSION NO--AP0124353
 ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE APPLICATION OF TENSION CHANGES
 THE BIREFRINGENCE OF POLY(METHYLVINYLSILOXANE),
 POLY(METHYLVINYLPHENYLSILOXANE), POLY(METHYL(GAMMA
 CYANOPROPYL)SILOXANE), AND POLY(METHYL(TRIFLUOROPROPYL)SILOXANE). THE
 INCREASE OF THE ELASTOMERS' CROSSLINKING HAS NO EFFECT ON THEIR OPTICAL
 SENSITIVITY (C SUB0) AND THE SEGMENTAL ANISOTROPY (DELTA ALPHA). THE
 REPLACEMENT OF ME WITH PH OR F SUB3 CCH SUB2 CH SUB2 GROUPS CHANGES
 DELTA ALPHA FROM NEGATIVE 16.5 TIMES 10 PRIME NEGATIVE25 TO NEGATIVE
 17.4 TIMES 10 PRIME NEGATIVE 25, OR NEGATIVE 2.4 TIMES 10 PRIME
 NEGATIVE25, RESP. THE TEMP. INCREASE EITHER INCREASES OR HAS NO EFFECT
 ON C SUB0 DEPENDING ON THE CONFIGURATIONAL CHANGES OF THE ELASTOMER
 HELIXES AND THE SIDE GROUPS. FACILITY: MOSK. INST. KHIM.
 MASHINOSTR., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 616.927-085.371:576.851.49]-039.71-032:611.3]-036.9

MESHALOVA, A. N., KURLOVA, V. I., TELESHEVSKAYA, E. A., BABINA, V. F.,
GOKHSHEYN, S. E., LIROVA, B. M., LAVROVSKAYA, V. M., TAMAREN, Yu. A., and
NEGINA, Yu. I., Moscow Institute of Vaccines and Sera Imede Mechnikov,
Gor'kiy Institute of Epidemiology and Microbiology, and Moscow Municipal and
Kuntsevo Sanitary Epidemiological Stations

"Peroral Immunization of Humans with Typhoid Vaccines in a Strictly Controlled
Experiment"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 10, 1973,
pp 71-77

Abstract: Following a successful trial of enteral immunization of children with
heated typhoid vaccine, larger doses of the same vaccine - heated and chemical -
contained in sugar-coated tablets were given in a double-blind test to 1225
children age 3 to 15 and 274 adults in 2 equal doses 15 to 30 days apart. The
reactions to the vaccine were mild and they generally occurred after ingestion
of the first tablet: in 13.60% and 9.31% those who took the heated and chemical
vaccines, respectively (in 5.88% of those who received placebo). Both vaccines
produced high antibody titers against the O, Vi, and H antigens in the sera of
the children as well as the adults. The authors recommend a major epidemiologi-
cal trial of the vaccines in regions with a high incidence of typhoid.
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1/2 020 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--ANIONIC POLYMERIZATION OF METHYLPHENYLCYCLOSILOXANES -U-

AUTHOR--(04)-BORISOV, S.N., KURLOVA, Z.V., YUZHENEVSKIY, YU.A., CHERNYSHEV,
YE.A.

COUNTRY OF INFO--USSR

SOURCE--VYSOKOMOL. SOEDIN., SER. B 1970, 12(5), 992-4

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--POLYMERIZATION, SILOXANE, CYCLIC GROUP, BENZENE DERIVATIVE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3007/0729

STEP NO--UR/0460/70/012/005/0132/0334

CIRC ACCESSION NO--AP0135154

UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0136164

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE POLYMN. RATE OF THE TITLE MONOMERS (I) IN THE PRESENCE OF K POLY(DIMETHYLSILOXANE)DIOLATE DECREASED IN THE ORDER:

1,3,5,7,TETRAPHENYL,1,3,5,7,TETRAMETHYLCYCLOTETRASILOXANE SIMILAR TO 1,3,5,TRIPHENYL,1,3,5,7,7,PENTAMETHYLCYCLOTETRASILOXANE GREATER THAN HEXAMETHYLDIPHENYLCYCLOTETRASILOXANE GREATER THAN

1,1,DIPHENYL,3,3,5,5,7,7,HEXAMETHYLCYCLOTETRASILOXANE GREATER THAN HEPTAMETHYL(PHENYL)CYCLOTETRASILOXANE GREATER THAN

OCTAMETHYLCYCLOTETRASILOXANE. THE INCREASED POLYMN. RATE OF I WAS ATTRIBUTED TO THE INDUCTIVE EFFECT OF PH GROUPS ADJACENT TO THE SI ATOM.

FACILITY: VSES. NAUCH.-ISSLED. INST. S.N. KAUCH. IM. LEBEDEVA, LENINGRAD, USSR.

UNCLASSIFIED

USSR

UDC 621.382:535.376

GOPSHTEIN-GARDT, A.L., KOVYREVA, N.I., KOGAN, L.M., KULAGIN, L.N., KURDYAND, B.I.,
TIN'KOV, A.P., TRUSHINA, V.YE.

"Semiconductor Light Sources (Light-Emitting Diode) Of Gallium Phosphide"

V sb. Poluprovodn. pribory i ikh primeneniye (Semiconductor Devices And Their
Application--Collection Of Works), Issue 4, Moscow, "Sov.radio," 1972, pp 3-14
(from RZh:Elektronika i yeye primeneniye, No 9, Sept 1972, Abstract No 95310)

Translation: The results are discussed of the development and an investigation
of the electrical and optical characteristics of gallium phosphide red-radiation
light-emitting diodes. The method of creation of p-n structures and the design
of the light-emitting diode are described. The principal areas of application of
the light-emitting diodes are considered. The devices described are characteriz-
ed by a quantum efficiency of radiation of 0.1--1 percent. 11 ill. 1 tab. 19 ref.
Author's abstract.

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USSR

UDC 51.621.391

KURLYANDCHIK, YA. M.

"Logarithmic Asymptotics Behavior of the Length of the Maximum Dispersion Cycle $r > 2$ "

Novosibirsk, V sb. Diskretn. analiz (Discrete Analysis--collection of works) No 19, 1971, pp 48-55 (from RZh--Matematika, No 8, 1972, Abstract No 8V492)

Translation: Let E^n be an n -dimensioned unit cube, and let $p(\alpha, \beta)$ be the Hamming distance between the vertices α and β of E^n . The subset $A_n^r \subset E^n$ is known as the dispersion cycle r if it possesses the following two characteristics: (1) The following indexing exists in A_n^r : $\forall i = 1, 2, \dots, I-1$, $p(\alpha_i^r, \alpha_{i+1}^r) = p(\alpha_i^r, \alpha_1^r) = 1$, where $I = I(A_n^r) = |A_n^r|$. (2) For any $\alpha \in A_n^r$, the intersection of A_n^r with a sphere of radius t and its center at α contains exactly $2t+1$ vertices for $t < r$. The problems consists in finding

$$I(n, r) = \max_{A_n^r} \{I(A_n^r)\}$$

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KURLYANDCHIK, YA. M., V sb. Diskretn. analiz, No 19, 1971, pp 48-55

and in constructing the maximum cycles. It is known that if $r = 2l + 1$, $2l + 2$, $r > 2$, then

$$I(n, r) \leq (1 - \varepsilon_{r, n}) \frac{2^n}{C \frac{1}{n} (1 - \frac{2l}{n})}.$$

The purpose of this article is to find the logarithmic asymptotics behavior of the maximum cycle length, $r > 2$, for the case in which r is independent of n or increases slowly with increasing n . It is shown that, for

$$r = r(n) \leq (1 - \varepsilon_n) \frac{n}{\varphi(n) \log n}; \quad \varphi(n) \rightarrow \infty, \quad n \rightarrow \infty,$$

$$I(n, r) \geq Br \frac{2^n}{n^r (\log n + 2r - 2)^r}.$$

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USSE:

KURLYANDCHIK, YA. M., V sb. Diskretn. analiz, No 19, 1971, pp 48-55

If, however,

$$r = r(n) \leq (1 - \varepsilon'_n) \frac{\log n}{\varphi(n) \log \log n}; \quad \begin{matrix} \varphi(n) \rightarrow \infty, \\ n \rightarrow \infty, \end{matrix}$$

then

$$I(n, r) \geq B'_r \frac{2^n}{n^{r-1+\delta_n}}, \quad \begin{matrix} \delta_n \rightarrow 0, \\ n \rightarrow \infty, \end{matrix}$$

V. Zinov'yev

USSR

KURLYANDCHIK, Ya. M.

"The Separation of Coverings"

Diskretn. analiz. [Discrete Analysis -- Collection of Works]. No 21, Novosibirsk, 1972, pp 26-30 (Translated from Referativnyi Zhurnal - Kibernetika, No 8, 1973, Abstract No 8 V418 by A. Sapezhenko)

Translation: Let $X=\{x_1, \dots, x_n\}$ be a set of n elements, while $M=\{M_1\}_{1=1}^p$ and $N=\{N_1\}_{1=1}^k$ are two systems of its subsets, each of which forms a covering, i.e., $X=\bigcup_{l=1}^p M_l=\bigcup_{i=1}^k N_i$. System N divides set M from M if for each $X \in M$ in N there is a set M such that $M \cap N=\{x\}$. System M is divided by system N if N divides each subset of system M . Suppose N consists of all M -element subsets of set X , while $L(n,m)=\min |N|$, where the minimum is taken with respect to all systems N dividing system M . It is shown in this

work that where $m^2=o \frac{n}{\log n}$,

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KURLYANDCHIK, Ya. m., Diskretn. analiz., No 21, Novosibirsk, 1972, pp 26-30

$$c_1 m; pg_2 n \leq L(n, m) \leq (1 + \delta_n) c_2 \cdot m^2 \log_2 n,$$

where c_1 and c_2 are constants, while $\delta_n \rightarrow 0$ and $n \rightarrow \infty$.

2/2

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UDC: 51:621.391

USSR

KURLYANDCHIK, Ya. M.

"Concerning Logarithmic Asymptotic Behavior of the Length of the Maximum of a Cycle of Dispersion $r > 2$ "

V sb. Diskretn. analiz (Discrete Analysis--collection of works), vyp. 19, Novosibirsk, 1971, pp 48-55 (from RZh-Kibernetika, No 8, Aug 72, Abstract No 8V492)

Translation: Let E^n be an n -dimensional unit cube, and let $p(\alpha, \beta)$ be the Hamming distance between vertices α and β of E^n . The subset $A_n \subseteq E^n$ is called a cycle of dispersion r if it has the following two properties: (1) There exists a numeration of vertices in A_n :

$$\forall i=1, 2, \dots, l-1, \quad p(\alpha^i, \alpha^{i+1}) = p(\alpha^l, \alpha^1) = 1,$$

where $|A_n| = l$. (2) for any $\alpha \in A_n$ the intersection of with a sphere of radius t and with center at α contains exactly $2t+1$ vertices when $t < r$. The problem consists in finding

$$I(n, r) = \max_{A_n} \{ |A_n| \}$$

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KURLYANDCHIK, Ya. M., Diskretn. analiz, vyp. 19, Novosibirsk, 1971, pp 48-55

and constructing the corresponding maximum cycles. It is known that if $r = 2l + 1$, $2l + 2$, $r > 2$, then

$$I(n, r) \leq (1 - \epsilon_{r,n}) \frac{2^n}{C_n \left(1 - \frac{2l}{n}\right)}.$$

The purpose of this paper is to construct a logarithmic asymptotic form for the length of the maximum cycle when $r > 2$ for the case where r is independent of n or increases quite slowly with an increase in n . It is shown that when

$$r = r(n) \leq (1 - \epsilon_n) \frac{n}{\varphi(n) \log n}; \quad \varphi(n) \rightarrow \infty, \quad n \rightarrow \infty,$$

$$I(n, r) \sim Hr \frac{2^n}{n^r (\log n + 2r - 2)^r}.$$

On the other hand if

$$r = r(n) \leq (1 - \epsilon_n) \frac{\log n}{\varphi(n) \log \log n}; \quad \varphi(n) \rightarrow \infty, \quad n \rightarrow \infty,$$

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KURLYANDCHIK, Ya. M., Diskretn. analiz, vyp. 19, Novosibirsk, 1971, pp 48-55

then

$$I(n, r) > B_r \frac{2\pi}{n-1+b_n} \cdot \begin{matrix} \delta_n \rightarrow 0, \\ n \rightarrow \infty. \end{matrix}$$

V. Zinov'yev.

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- 30 -

1/2 011 UNCLASSIFIED
TITLE--THEORY OF ISOBARIC ANALOG RESONANCES -U-

PROCESSING DATE--16OCT70

AUTHOR--(02)--KURLYANDSKIY, A.S., URIN, M.G.

COUNTRY OF INFO--USSR

SOURCE--YAD. FIZ. 1970, 11(3), 545-55

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--NUCLEAR ISOBAR, NUCLEAR RESONANCE, NUCLEAR STRUCTURE, NUCLEAR
REACTION, PROTON INTERACTION, COMPOUND NUCLEUS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAHE--1991/1069

STEP NO--UR/0367/70/011/003/0545/0555

CIRC ACCESSION NO--AP0110759

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--16JCT70

2/2 011

CIRC ACCESSION NO--AP0110759

ABSTRACT/EXTRACT--(U) SP-0-

ABSTRACT. THE PROBLEM OF STUDYING ISOBARIC ANALOG RESONANCES, WHICH PROVIDE DATA BOTH ON THE STRUCTURE OF THE NUCLEAR STATES AND ON THE MECHANISM OF NUCLEAR REACTIONS, IS DISCUSSED. A DESCRIPTION OF ISOBARIC ANALOG RESONANCES IN THE REGION OF NONOVERLAPPING LEVELS OF A COMPD. NUCLEUS, IS GIVEN. FORMULAS FOR AVERAGING OVER THE FINE STRUCTURE COMPONENT CROSS SECTIONS OF (RHO, RHO PRIME) AND (RHO, ETA) REACTIONS TAKING INTO ACCOUNT 2 POSSIBLE MIXING MECHANISMS OF ANALOG AND COMPD. NUCLEAR STATES, WERE OBTAINED. THE RESULTS ARE COMPARED WITH THE RESULTS OF OTHER AUTHORS AND THE DIFFERENCES ARE DISCUSSED.

FACILITY: MOSK. INZH.-FIZ. INST., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 614.3/.4.07(470.311):613.6

KURLYANDSKIY, B. A. and TSESSARSKIY, A. V., Moscow City Sanitary Epidemiology Station

"Research and Field Work in Occupational Hygiene Done by the Moscow Sanitary Epidemiology Station"

Moscow, Gigiyena Truda i Professional'nye Zabolevaniya, No 7, Sep 73, pp 43-44

Abstract: Recent changes in the Sanitary Epidemiology Station are discussed, including the predominance of research over inspection, the acquisition of modern laboratory equipment, and the organization of new sub-sections such as noise-vibration, toxicology, occupational physiology, magnetic fields and isolation of prophylactics with carcinogenic action. Several examples of practical actions carried out by the regional sections are given. The municipal section worked on such problems as nonstandard vibrating equipment, irritating latexes and toxicology. Research conducted in the last ten years has been applied in foundries and the furniture, shoe and perfume industries and others.

1/1

USSR

BASKAKOV, V. V., KURMANBAYEVA, F. M., GORELOV, G. Yu., KALACHENKO, A. A.

"Algorithm and Program for Statistical Analysis"

Mat. Metody v Geol. [Mathematical Methods in Geology -- Collection of Works], No 2, Alma-Ata, 1971, pp 161-176 (Translated from Referativnyy Zhurnal Kibernetika, No 6, 1973, Abstract No 6V701, by A. Doroshenko).

Translation: A program is suggested for statistical analysis of experimental data, the need for which arises in performance of various applied tasks, particularly in optimization of the process of enrichment of polymetallic ores. The program allows calculation of the following characteristics: mean value; dispersion of the mean; asymmetry and excess indicators; variation factor; mean square error of measurement of these quantities; paired correlation factor; partial and set correlation factors; estimates of reliability of correlation factors and significance of set correlation factor; linear regression equation and value of its coefficients. A program is presented in Ural-2 code, occupying a machine memory volume of 2180₈ locations. 2 biblio. refs.

Acc. Nr.

AP0041521

Abstracting Service:
CHEMICAL ABST

4/70

Ref. Code

UR 0366

89495k Products of the reaction of α -chloro- α -isonitrosoacetone with aromatic amines. Azerbaev, I. N.; Kurmanaliev, R. G.; Poplavskaya, I. A. (Inst. Khim. Nauk, Azerb. SSR). Zh. Org. Khim. 1970, 6(1), 66-8 (Russ). The reaction of MeCOCCl.NOH (I) with RNH_2 (R is 3-MeC₆H₄, 2,4-Me₂C₆H₃, 2,3-Me₂C₆H₃, ClC₆H₄, 4-MeOC₆H₄, 2-MeOC₆H₄, 3-HOC₆H₄, 2-MeC₆H₄, 3-HOC₆H₄, or 3-H₂NC₆H₄) in the presence of NEt₃ gave MeCOC(:NOH)NHR (II). Similarly, treating I with α -aminopyridine in pyridine soln. gave 10-13% α -(2-pyridylamino)- α -isonitrosoacetone (III). The reaction of II with NH_2OH gave $\text{MeC(:NOH)C(:NOH)NHR}$ (IV); IV (R = 4-ClC₆H₄) was prepd. by treating $\text{MeC(:NOH)C(:NOH)Cl}$ with 4-ClC₆H₄NH₂ in the presence of NEt₃; III does not react with NH_2OH . CJR

REEL/FRAME

19751389

USSR

UDC 619:615.93.084.636

KURMANOV, I. A., Candidate of Veterinary Sciences, All Union Scientific
Research Institute of Veterinary Sanitation

"Fusarium Fungi Found in Feed and Means of Preventing Fusariotoxicosis"

Moscow, Veterinariya, No 12, 1971, pp 81-82

Abstract: An extensive study of mycotoxicosis in livestock and poultry showed that, in most cases, these occurrences can be linked to the fungal flora found in mixed feed. Fusariotoxicosis cases were most frequently recorded. Among the different species of Fusarii, the most commonly encountered group was Sporotrichiella (Fusarium sporotrichioides, Fus. poai, and Fus. trisinctum). This group was also most toxic. Fusarium fungi, also wide spread in nature, account for the greatest losses to livestock and poultry. Contamination of concentrated feed was higher than that of bulk feed. Fungi growing on fodder or grain exposed to precipitation in the late season or stored in places where relative humidity is over 17% have a dangerous toxicity level because of the rapid development of spores.

It was concluded that grain and hay harvested late in the season should be checked by technicians before being used in the preparation of mixed

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USSR

KURMANOV, I. A., Veterinariya, No 12, 1971, pp 81-82

feed. Also, stricter veterinary sanitation control should be established by sending samples to veterinary laboratories. This is because some of the mixed feed contaminated by Fusarium fungi has a low toxicity and still may be fed to beef cattle in a proportion of 30-40% in certain combinations with other feed.

2/2

1/2 028 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--BIOCHEMICAL INDEXES OF SHEEP MEAT DURING EXPERIMENTAL
FUSARIOTOXICOSIS -U-
AUTHOR--(02)-KOLUBOLOTSKIY, G.V., KURMANDY, I.A.
COUNTRY OF INFO--USSR
SOURCE--VETERINARIYA, MOSCOW 1970, 46(1), 100-1
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--TOXICITY, FOOD CONTAMINATION, FUNGUS DISEASE, ANIMAL DISEASE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3002/0377 STEP NO--UR/0346/T0/046/001/0100/0101
CIRC ACCESSION NO--A20127958
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--10/09/70

2/2 028

CIRC ACCESSION NO--AP0127958

ABSTRACT/EXTRACT--(U) GP-D- ABSTRACT. FUSARIOTOXICOSIS WAS PRODUCED IN SHEEP BY INTRAGASTRIC ADMINISTRATION OF CULTURES OF FUSARIUM SPOROTRICHOIDES PREPD. ON STERILIZED BARLEY. BIOCHEM. INDEXES OF MEAT OF SHEEP WITH EXPTL. FUSARIOTOXICOSIS WERE NOT CHANGED. SUCH MEAT DID NOT SHOW TOXIC PROPERTIES.

UNCLASSIFIED

Mechanical Properties

UDC 669.14.018.298.621.78

USSR

ZADOROZHNYAYA, L. K., DOBRUSKINA, Sh. R., KURMANOV, M. I., Ukrainian Institute of Metals

"Properties of Steel Hardened by Alloying or Heat Treatment"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 5, 1972, pp 47-50.

Abstract: This work compares the mechanical properties of steels heat treated to a strength of over 60 kg/mm² and additionally alloyed hot forged steel of the same strength. In steels type 3sp, 18G2, 19G and 14KhGS in the heat treated state with identical tensile strength, all other mechanical characteristics are equal. With identical strength, heat treated and hot forged steels have different ratios of mechanical characteristics. As tensile strength increases, the yield point increases rapidly in heat treated steels, more slowly in hot forged steels. Relative elongation is somewhat higher in hot forged steels; impact toughness is somewhat higher in heat treated steels.

1/1

USSR

UDC 621.375.592:621.383.51

DROZDOV, V.A., KURMASHOV, S.H.D., MISHENKO, M.T.

"Photocurrent Of Heterojunction With Long-Time Relaxation Of Space Charge"

Elektron. tekhnika. Nauchno-tekhn. sb. Upr. kachestvom i standartiz. (Electronic Technology. Scientific-Technical Collection. Quality Control And Standardization), 1970, No 4, pp 45-49 (from RZh--Elektronika i yeye primeneniye, No 12, December 1970, Abstract No 123252)

Translation: The effect was investigated of long-time relaxation of the space charge of a p-Cu₂O-n-GaSe heterojunction on the magnitude of the barrier-layer photocurrent. An expression is derived for the current of a short circuit generated during illumination of heterophotocells by light which is strongly absorbable in the Cu₂O. A satisfactory agreement of the computed and experimental data is displayed (with specific assumptions). 2 ill. 2 ref. Summary.

1/1

UDC 612.171

USSR

CHINKIN, A. S., and KURMAYEV, O. D., Chair of Human and Animal Physiology, Kazan State Pedagogical Institute, Kazan

"Origin and Mechanism of Training Bradycardia"

Leningrad, Fiziologicheskii Zhurnal SSSR imeni I. M. Sechenova, Vol 55, No 6.
Jun 70, pp 916-920

Abstract: The tonus of extracardial nerves was studied in experiments on five dogs trained to run on a treadmill and five untrained dogs. Shifts in the frequency of heartbeat after surgery to interrupt nerve connections to the heart indicated that the tonus of the n. vagus remained unchanged following systematic muscular activity in training, while that of the sympathetic nerves innervating the heart decreased. The response of the heart to stimulation by both sympathetic nerves and the consequent predominance of the tonus of the vagus over that of the sympathetic nerves constitute one of the mechanisms that are responsible for the development of bradycardia as a result of physical training.

1/1

1/2 008 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--THE ROLE OF STREPTOCOCCAL CARRIER STATE IN THE DEVELOPMENT OF
RHEUMATISM AND ITS RELAPSES AMONG THE INHABITANTS OF RURAL LOCALITIES
AUTHOR--BOBYLEV, V., KURMAYEVA, M., YAKOVLEV, A. R

COUNTRY OF INFO--USSR

SOURCE--TERAPEVTICHESKIY ARKHIV, 1970, VOL 42, NR 2, PP 55-58

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--STREPTOCOCCUS, RHEUMATIC DISEASE, RESPIRATORY SYSTEM DISEASE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1995/1781

STEP NO--UR/0504/70/042/002/0055/1053

CIRC ACCESSION NO--AP0101828

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--11SEP70

2/2 008

CIRC ACCESSION NO--AP0101828

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE RESULTS ARE GIVEN OF EXAMINATION OF 382 INHABITANTS OF RURAL LOCALITIES FOR STREPTOCOCCAL CARRIER STATE. OF THIS NUMBER 121 HAD RHEUMATISM, 37 CHRONIC TONSILLITIS, 10 INFECTIOUS NONSPECIFIC POLYARTHRITIS AND 214 PERSONS WERE PRACTICALLY HEALTHY. THE DATA OBTAINED SHOWS THAT THE STREPTOCOCCAL CARRIER STATE IN THE PHARYNX OF HEALTHY INDIVIDUALS REACHED 22.9 PLUS OR MINUS 9.08PERCENT, IN PATIENTS WITH RHEUMATISM 40.5 PLUS OR MINUS 14.11PERCENT, WITH CHRONIC TONSILLITIS 37.8 PLUS OR MINUS 25.21PERCENT. HEMOLYTIC STREPTOCOCCUS OF GROUP A WAS DETECTED MOST COMMONLY ESPECIALLY IN PATIENTS WITH RHEUMATISM. THE HEMOLYTIC STREPTOCOCCUS WAS MORE FREQUENTLY DETECTED IN MEMBERS OF A RHEUMATIC FAMILY (53.5 PLUS OR MINUS 18.75PERCENT) THAN IN HEALTHY INDIVIDUALS (20.0 PLUS OR MINUS 5.97PERCENT). A HIGH PROPAGATION OF HEMOLYTIC STREPTOCOCCUS IN PATIENTS WITH RHEUMATISM AND INTENSIVE STREPTOCOCCAL SURROUNDING IN RHEUMATIC FAMILIES REQUIRE A MORE PROLONGED AND PERSISTENT BICILLIN PROPHYLAXIS, EVEN TO BE CONDUCTED ALL YEAR ROUND.

UNCLASSIFIED

USSR

UDC 541.62:547.785.5:789.61:834.4:543.532.
25.4

ALEKSEYEVA, L. M., PERESLINT, YE. M., SHEYNHER, YU. N., KOCHERGIN, P. M.,
KRASOVSKIY, A. N., and KURNAZ, B. V., All Union Scientific Chemical-
Pharmaceutical Research Institute imeni S. Ordzhonikidze, Moscow

"Ring-Chain Tautomerism of S-Acylalkyl Substituted Imidazoles and Annulated
Imidazole Systems"

Riga, Khimiya Geterotsiklicheskikh Soyedineniy, No 8, Aug 72, pp 1125-1131

Abstract: The ring-chain tautomerism of S-acylalkyl substituted 2-mercapto-
4,5-diphenylimidazole, 2-mercaptobenzimidazole, 2-mercaptonaphth[1,2-d]
imidazole, 8-mercaptapurine, 8-mercaptotheophylline, and 2-mercaptimidazoline
has been studied by PMR and IR spectroscopy. Depending on the structure of
aldehyde or ketone radical, or on the type of heterocycle condensed with the
imidazole nucleus, depending on the state of the aggregate and on the type
of solvent used, these compounds can exist as open heteroacylmercaptaldehydes
(ketones), as cyclic β -hydroxy derivatives of imidazothiazoline systems or
as mixed tautomeric forms. When a substituent exists on position 2 of the
thiazoline ring, the cyclic compounds exist as a mixture of two diastereoisomeric
forms,

1/1

1/2 032 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--ELASTIC OPTICALLY SENSITIVE MATERIAL -U-
AUTHOR--(03)-SOKOLOV, S.I., RISKINA, M.A., KUZMINSKIY, A.S.
COUNTRY OF INFO--USSR
SOURCE--U.S.S.R. 253,422
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970, 47(8)
DATE PUBLISHED--10FEB70

SUBJECT AREAS--CHEMISTRY, MATERIALS
TOPIC TAGS--ELASTICITY, POLYBUTADIENE, VULCANIZATION, OPTIC PROPERTY,
CHEMICAL PATENT, SYNTHETIC RUBBER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1995/1158

STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0116623

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--13NOV70

2/2 032
CIRC ACCESSION NO--AA0116623

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TO INCREASE THE TRANSPARENCY AND OPTICAL SENSITIVITY WITH COEFF. OF ELASTICITY SMALLER THAN OR EQUAL TO 18 KG-CM PRIME2, STEREOREGULAR POLYBUTADIENE RUBBER OR CIS,TRANS,POLYBUTADIENE RUBBER IS VULCANIZED IN A PRESS AND ROLLED 3-5 MIN TO A GIVEN THICKNESS AT A HEATING RATE OF 5DEGREES-MIN. THE RUBBER IS HELD 20-50 MIN AT 220-400DEGREES AND COOLED AT 5DEGREES-MIN.
FACILITY: MOSCOW INSTITUTE OF CHEMICAL ENGINEERING.

UNCLASSIFIED

USSR

UDC 621.373:530.145.6:01.3.1.1

KURNEVICH, E. A., SAKAYEV, O. O., TOROKOV, A. K.

"A Spectrometer With Interferometer With Spherical Mirrors for Studying Gas Lasers"

Tr. Sib. NII metroi. (Works of the Siberian Scientific Research Institute of Metrology), 1971, vyp. 9, pp 28-35 (from Elektronika, No 4, Aug 71, Abstract No 31240)

Translation: The paper describes a spectrometer based on a spherical interferometer with spherical mirrors with Q-selection of circular longitudinal modes; the device is not critical to matching with a laser. With respect to simplicity of construction and practical use, it is easily competitive with plane-parallel interferometers. The spherical interferometer is based on a cavity of semi-conical geometry. The natural longitudinal modes are selected by means of a circular laser diaphragm. The input mirror of the interferometer is flat to reduce power losses. A necessary condition for matching is coinciding of the optical axes of interferometer and laser. The required resolution is 15 MHz or less. A. K.

1/1

1/2 CC9 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--COMPLEXES OF GERMANIUM, IV, WITH MANDELIC ACID -U-

AUTHOR--(04)-SPAGISULTANOVA, G.A., KURNEVICH, G.I., VISHNEVSKIY, V.B.,
BOGDANOVA, I.V.

COUNTRY OF INFO--USSR

SOURCE--Zh. NEORG. KHIM. 1970, 15(3), 648-51

DATE PUBLISHED--70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--GERMANIUM COMPOUND, COMPLEX COMPOUND, CESIUM COMPOUND, COBALT
COMPLEX, PLATINUM COMPLEX, GLYCOLLIC ACID

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--2000/1705

STEP NO--UR/0078/10/015/003/064B/0651

CIRC ACCESSION NO--AP0125326

UNCLASSIFIED

2/2 009

UNCLASSIFIED

PROCESSING DATE--ZONOV70

CIRC ACCESSION NO--AP0125326

ABSTRACT/EXTRACT--(U) GP-U- ABSTRACT. M(GE(BZCO SUB2)SUB2.PHCH(DH)CO
SUB2.H SUB2 O), WHERE M EQUALS X PRIME POSITIVE, NH SUB4 PRIME POSITIVE,
CS PRIME POSITIVE, (COEN)SUB2CL SUB2)PRIME POSITIVE, (PT(NH
SUB3)SUB4)PRIME2 POSITIVE, OR (CO (NH SUB3)SUB6)PRIME3 POSITIVE SEPD. AS
SOLIDS DURING REACTION OF GE(IV) WITH MANDELIC ISOMOLAR SERIES SHOWED
FORMATION OF COMPLEXES OF DIFFERENT COMPN. STRUCTURES ARE PROPOSED FOR
THE COMPLEXES OF GE(IV) WITH I.

UNCLASSIFIED

USSR

UDC 519.2

KURNO, O. G.

"Principles of the Theory of Chances and Probabilities"

Osnovy Teorii Shansov i Veroyatnostey [English Version Above], Moscow, Nauka Press, 1970, 384 pages (Translated from Referativnyy Zhurnal Kibernetika, No. 4, April, 1971, Abstract No. 4 VlllK).

No Abstract.

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USSR

UDC 537.311.33:54-185

KORZO, V.F., KURNISOV, A.I.

"Nonlinear Conductivity Of P-N And P-Q-N Hybrid Heterojunctions"

Elektron.tekhnika. Nauch.tekhn.sb.Poluprovodn.pribory (Electronics Technology. Scientific-Technical Collection. Semiconductor Devices), 1971, Issue 3(60, pp 50-57 (from RZh--Elektronika i yeye primeneniye, No 11, Nov 1971, Abstract No 118159)

Translation: The character is experimentally investigated of nonlinear electrical conductivity in film hybrid heterojunctions based on amorphous or partially crystalline films of SiO_2 , ZnO and chalcogenid glass with a thin dielectric base of Al_2O_3 . The technology for deposition of the films, the method of electrical forming, and the structure of standard specimens of heterojunctions are described, and the character is analyzed of the transfer of charge carriers in hybrid heterostructures based on amorphous films. Summary.

1/1

USSR

UDC 621.316.721

AZAT'YAN, G.A., BELEN'KOV, N.M., YERMOSHIN, V.D., KOMAROV, L.I., KURNOSOV, A.I.

"Analysis Of Operation And Production Technology Of Current Regulator"

Elektron. tekhnika. Nauchno-tekhn. sb. Poluprovodn. pribory (Electronic Technology. Scientific-Technical Collection. Semiconductor Devices), 1970, Issue 3(53), pp 67-72 (from RZh--Elektronika i yeye primeneniye, No 1, January 1971, Abstract No 18477)

Translation: The circuit is considered of a current regulating two-terminal network using transistors and semiconductor diodes, which is intended to be accomplished as a hybrid microcircuit. The production technology for the hybrid circuit is considered and its parameters are cited. 5 ill. 5 ref. S.D.

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USSR

UDC: 621.315.592

GOLDOBIN, I. S., DOMIN, N. S., KURKOSOV, V. D., LAPITSKAYA, G. A.,
PLESHKOV, A. A., PROZOROV, G. N., RIVLIN, E. A., SOLODOV, A. P.,
and SHIL'DYAYEV, V. S.

"Quantum-Optical Integrated Circuits of GaAs"

Leningrad, Fizika i tekhnika poluprovodnikov, Vol. 5, No. 1, 1971,
pp 170-172

Abstract: This brief communication offers compact information on quantum-optical logic circuits using integrated GaAs components. Based on the stability of multi-coupled semiconductor lasers. Photographs of such laser modules are shown; these have electron-hole junctions formed by the diffusion method, and are made in the form of mesa structures consisting of injector sections with etched dividers 50 microns wide and about 5 microns deep, which isolate regions of nonuniform injection with a transfer resistance of about 15 ohms. The modules contain photoelectric converters, in the form of GaAs photodiodes, which transform optical pulses into electrical pulses with amplitudes of the order of 0.5 volts across a load of 50 ohms. Action of the modules is explained. The author expresses his gratitude to M. F. Stel'makh.

K
USSR

UDC 681.34:621.381.4

ALIMOV, KH. R., KARPOV, YU. K., and KURNOSOV, V. G.

"A Photoelectric Angle-to-Code Converter"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyya Obratsey, Tovarnyye Znaki, No 4, 1970, p 102, patent No 260980, filed 21 Jun 68

Abstract: This Author's Certificate introduces a photoelectric angle-to-code converter which contains a code disc, light source, photopickups, and a reversible pulse counter. As a distinguishing feature of the patent, conversion error is reduced by adding an auxiliary photopickup with output connected through an amplifier to the input of an auxiliary reversible counter whose output is connected through a correction pulse shaper to the inputs of the main reversible counter.

1/1

therapy

USSR

POSPELOVA, V. V., RAGHIMOVA, N. G., KOROLEVA, A. I., D'YAKOVA, Ye. I.,
KHIRMOSOVA, N. A., and SMIRNOV, G. V., Moscow Scientific Research Institute of
Epidemiology and Microbiology

"New Forms of Kolibakterin -- a Preparation for Nonspecific Prophylaxis and
Therapy of Intestinal Infections"

Tashkent, Meditsinskiy Zhurnal Uzbekistana, No 6, 1970, pp 48-49

Abstract: Kolibakterin is a preparation of live bacteria of antagonistic E. coli
M-17 strain. It has been used fairly successfully as a drug for nonspecific pro-
phylaxis and therapy of acute dysentery and chronic colitis, and for the restora-
tion of the normal intestinal microflora in various bacterial diseases. However,
the form in which it was available -- a loose mass in vacuum ampules -- made
tedious weighing and dissolving of individual doses necessary. Furthermore, the
bacteria were partly destroyed in the stomach by hydrochloric acid. Early attempts
to press the mass into tablets were unsuccessful, since the biological activity of
the preparation rapidly decreased. A new method of obtaining kolibakterin in dry
form and pressing it into tablets or packing it into gelatin capsules has been
developed. Preliminary tests have shown that both the tablets and the capsules are
as effective as the original preparation. The next step is to mechanize the pro-
cedure and to use acid-resistant capsules.

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1/2 021 UNCLASSIFIED PROCESSING DATE--09OCT70
TITLE--ELECTRON CONCENTRATION AND STRUCTURE OF CHROMOSPHERIC FLARES -U-

AUTHOR--KUROCHKA, L.N.

COUNTRY OF INFO--USSR

SOURCE--ASTRON. ZH. 1970, 47(1), 111-21

DATE PUBLISHED-----70

SUBJECT AREAS--ASTRONOMY, ASTROPHYSICS

TOPIC TAGS--SOLAR FLARE, SOLAR CHROMOSPHERE, ELECTRON DENSITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1991/0877

STEP NO--UR/0033/70/047/001/0111/0121

CIRC ACCESSION NO--AP0110598

UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--090CT70

CIRC ACCESSION NO--AP0110598

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE H EMISSION LINES ORIGINATE IN THE FLARE REGION WHERE THE ELECTRON CONC. IS 10 PRIME12-5 TIMES 10 PRIME13 CM PRIME NEGATIVE3; IN THE CENTRAL PART OF A FLARE, THE ELECTRON CONC. MAY BE HIGHER BY AN ORDER THAN THAT IN THE PERIPHERY; THE EFFECTIVE LENGTH OF THE FLARES IS AN INDICATION OF THEIR FILAMENTARY STRUCTURE; AND THE ELECTRON CONC. BETWEEN FILAMENTS IS 5 TIMES 10 PRIME10-5 TIMES 10 PRIME11 CM PRIME NEGATIVE3. FACILITY: ASTRON. OBSERV., KIEV. GOS. UNIV., KIEV, USSR.

UNCLASSIFIED

1/2 035 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--POWER PLANT USE OF SULFUR CONTAINING PETROLEUM RESIDUES -U-
AUTHOR--(05)-KOLODIYEVA, YE.V., KUROCHKIN, A.I., ZHAROVA, M.N.,
KASHURICHEV, A.P., CHUKHANDV, Z.F.
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK SSSR, ENERG. TRANSP. 1970, (1), 85-93
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS, PROPULSION AND FUELS, EARTH SCIENCES AND
OCEANOGRAPHY
TOPIC TAGS--PYROLYSIS, PETROLEUM DEPOSIT, GEOGRAPHIC LOCATION, CHEMICAL
COMPOSITION, ECONOMICS, FUEL CONSUMPTION, STEAM BOILER, BENZENE,
TOLUENE, NAPHTHALENE, ETHYLENE, COKE, SULFUR, POWER PLANT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1996/1544 STEP NO--UR/0281/70/000/001/0035/0093
CIRC ACCESSION NO--AP0118527
UNCLASSIFIED

2/2 035

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0118527

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. POWER PLANT PYROLYSES OF S CONTG. MAZUT (PETROLEUM RESIDUES) FROM ROMANSHKINO AND ARLANSK CRUDE OILS AT RATES OF 1.3-4.7 G-SEC YIELDED ACCORDING TO CALCNS. BASED ON A SINGLE PYROLYSIS CYCLE 57-78 AND 55-78PERCENT GAS AND 31-40 AND 27-38PERCENT LIQ. PRODUCTS, OF WHICH 7-11 AND 9-12PERCENT B. SMALLER THAN OR EQUAL TO 230DEGREES WERE RECOVERED BEFORE RECYCLING. OPTIMAL CONDITIONS FOR MAX. C SUB2 H SUB4 YIELDS (22.8 AND 17.5PERCENT) WERE 0.02 AND 0.08 SEC AT 945 AND 930DEGREES WITH STEAM, MAZUT RATIOS B OF 0.66 AND 0.49 KG-KG, RESP. FOR ARLAN MAZUT-C SUB6 H SUB6, PHNE, ME SUB2 C SUB6 H SUB4 PLUS PHET, AND NAPHTHALENE, YIELDS WERE MAX. (6.0, 1.6, 0.2, AND 1.4PERCENT, RESP.) AT AN C SUB2 H SUB4 YIELD OF 13.8PERCENT WHEN THE CONDITIONS WERE 0.24 SEC AT 960DEGREES WITH B EQUALS 0.51, WHEREAS THESE YIELDS WERE 3.5, 2.1, 0.5, AND 0.5PERCENT AT AN CL SUB2 H SUB4 YIELD OF 17.5PERCENT WHEN THE CONDITIONS WERE 0.07-0.09 SEC AT 920-50DEGREES WITH B EQUALS 0.5 AND THE FRACTION OF THE ORIGINAL S LEFT IN THE COKE WAS SIMILAR TO 30PERCENT. THIS FRACTION WAS MIN. (SIMILAR TO 11 AND 25PERCENT) AND C SUB2 H SUB4 YIELDS WERE HIGH (27.6 AND 17.6PERCENT) WHEN THE RESP. MAZUTS WERE PYROLYZED FOR 0.03 AND 0.06 SEC AT 915 AND 945DEGREES WITH B EQUALS 0.75 AND 1.0, BUT AROMATIC HYDROCARBON YIELDS WERE REDUCED BY SIMILAR TO 33PERCENT AND POWER EFFICIENCY BY SIMILAR TO 3.5-4.0PERCENT. IN COMPARISON WITH SEP. PRODUCTION OF POWER AND PETROLEUM PRODUCTS, POWER PLANT PYROLYSIS UNDER OPTIMAL CONDITIONS REDUCED BOILER FUEL CONSUMPTION BY SIMILAR TO 20PERCENT AND POWER COSTS BY SIMILAR TO 50PERCENT.

UNCLASSIFIED

USSR

UDC 621.396.677.012.12.001.57:539

ARUTYUNYAN, Dzh. S., KUROCHKIN, A. P.

"Optical Modeling of the Radiation Patterns of Antennas From a Radiohologram of the Field in the Fresnel Zone"

Moscow, Radiotekhnika i Elektronika, Vol 26, No 9, Sep 71, pp 1621-1623

Abstract: The authors consider the particulars of reconstructing the radiation patterns from a radiohologram of the field measured in the Fresnel zone. Expressions are derived for displacement of the plane of the radiation pattern from the focus of the lens, and the correspondence is found between the angular coordinates in the field of the antenna and the Cartesian coordinates in the plane of the radiation pattern. A relationship is found for calculating defocusing of the antenna through the distance between the plane of the radiation pattern and the plane of optimum focusing.

1/1

Acc. Nr.: AM0044339

Ref. Code: UQ0000

Kurochkin, F. P.

Principles of Design of Vertical Take-Off and Landing Aircrafts (Osnovy proyektirovaniya samoletov s vertikal'nym vzletom i posadkoy) Moscow, Mashinostroyeniye, 1970, 351 pp (SL:1990)

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The book deals with designs of relatively-new types of aircrafts with take-off and landing characteristics of helicopters and other flight properties characteristic of aircrafts...

The book was written for engineers of the aircraft industry; it can be useful to students of higher aviation schools.

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19770937

USSR

UDC: 621.396.69:621.318.4

KROTKOV, I. N., KUROCHKIN, E. Ye.

"Effect of Winding Configuration on the Q of Toroidal Coils"

Dokl. Vses. nauchno-tekhn. konferentsii po radiotekhn. izmereniyam. T. 1 (Re-
ports of the All-Union Scientific and Technical Conference on Radio Engineer-
ing Measurements. Vol. 1), Novosibirsk, 1970, pp 38-41 (from HZh-Radiotekh-
nika, No 12, Dec 70, Abstract No 12V389)

Translation: The authors consider the problem of finding the ratio between
coil dimensions which minimizes winding resistance for a given inductance.
Optimum ratios are found for single-layer toroidal coils of circular and
rectangular cross section. Two illustrations, bibliography of one title.
N. S.

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Pharmacology and Toxicology

USSR

UDC 615.217.32.015.2:615.214

BUROV, Yu. V., and KUROCHKIN, I. G., Laboratory of the Pharmacology of the Nervous System, Institute of Pharmacology, Academy of Medical Sciences USSR

"The Effect of Psychotropic Drugs on the Emotional Behavior of Cats Upon Injection of Acetylcholine into the Central Gray Matter"

Moscow, Byulleten' Eksperimental'noy Biologii i Meditsiny, No 12, 1971, pp 48-51

Abstract: Injection of acetylcholine into the central gray matter of cats resulted in pendulum-like movements of the tail, salivation, dyspnea, growling, and other manifestations of hostility by the animals. The EEG was characterized by desynchronization in the cortex and reticular formation and bursts of high-amplitude activity in the amygdala. Large doses of chlorpromazine (6 mg/kg) or trifluoperazine (4 mg/kg) intensified the reaction while smaller doses (4 and 0.75 mg/kg, respectively) mitigated it. Haloperidol (4 mg/kg) increased the latent period of the reaction significantly and shortened its duration almost three-fold. Librium (5 to 10 mg/kg) and meprobamate (30 to 60 mg/kg) had no effect. Benactyzine (3 mg/kg) and atropine (2 mg/kg) increased the latent period of the reaction three-fold but did not alter its duration. The EEG picture was variously modified by the different psychotropic drugs.

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USSR

UDC 541.123:28

LEVIN, YE. S., KOSTINA, T. K., PETRUSHEVSKIY, M. S., GEL'D, P. V., and
KUROCHKIN, K. T., Ural Polytechnic Institute

"Solubility of Hydrogen in Liquid Alloys of Cobalt and Aluminum"

Ordzhonikidze, Izvestiya Vysshikh Uchebnykh Zavedeniy, Tsvetnaya Metallurgiya
No 1, 1973, pp 31-36

Abstract: The solubility of hydrogen was studied as a function of the composition of Co-Al alloys ($0 \leq x_{Al} \leq 1$) and temperature (1300-1700°C). The solubility percentage was determined from the hydrogen pressure in a closed system, with a determination error of $\pm 5.5\%$. The solubility of hydrogen in Co-Al alloys obeys the square root rule: $[H] = K \sqrt{P_{H_2}}$, where $[H]$ is the hydrogen concentration in alloy, weight percentage; P_{H_2} is the hydrogen pressure in gaseous phase, bar; and K is the hydrogen solubility in alloy (weight percentage/bar) which is numerically equal to its solubility in metal at $P_{H_2} = 1$ bar. The solubility process of hydrogen is accompanied by dissociation of H molecules into atoms (ions), and it changes according to the extremum rule with a minimum at 50-60 at% Al. The solubility process is of an endothermal nature and its dependence on temperature is described by $\log K = AT^{-1} + B$, where A and B are coefficients which depend only on

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USSR

LEVIN, YE. S., et al., Izvestiya Vysshikh Uchebnykh Zavedeniy, Tsvetnaya Metallurgiya, No 1, 1973, pp 31-36

alloy composition. Enthalpy and entropy of the solubility of atomic hydrogen in Co-Al alloys, coefficients of hydrogen activity, and interaction parameters of dissolved hydrogen indicate that the solubility of hydrogen in these alloys is determined by the structure of a short-range order and by the presence of microgroups in a melt of changeable composition (Co_xAl_y type). The solubility of hydrogen in Co-Al alloys also depends on Co and Al atoms which do not take part in the formation of localized bonds between Co and Al. The concentration and nature of the solvent atoms which do not participate in the formation of quasi-molecular Co_xAl_y complexes plays an important role in determining the solubility percentage of hydrogen in Co-Al alloys. The solubility of hydrogen at 1535, 1530, and 1630°C in the presence of $x_{\text{Al}} \leq 0.6$ is respectively,

$$x_{\text{H}, 1535^\circ\text{C}}^{\text{Co, Al}} = 0.00058 + 0.002056(x_{\text{Al}} - 0.6)^2$$

$$x_{\text{H}, 1530^\circ\text{C}}^{\text{Co, Al}} = 0.00069 + 0.001809(x_{\text{Al}} - 0.6)^2$$

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USSR

LEVIN, YE. S., et al., Izvestiya Vysshikh Uchebnykh Zavedeniy, Tsvetnaya Metallurgiya, No 1, 1973, pp 31-36

$$x_{H, 1630^{\circ}C}^{Co, Al} = 0.00076 + 0.001833(x_{Al} - 0.6)^2.$$

When $x_{Al} \geq 0.6$ the hydrogen solubility at the same temperatures is:

$$x_{H, 1535^{\circ}C}^{Co, Al} = 0.00058 + 0.004933(x_{Al} - 0.6)^2$$

$$x_{H, 1580^{\circ}C}^{Co, Al} = 0.00069 + 0.005312(x_{Al} - 0.6)^2$$

$$x_{H, 1630^{\circ}C}^{Co, Al} = 0.00076 + 0.006125(x_{Al} - 0.6)^2.$$

3/3

USSR

Foundry

USSR

UDC 669.183...016.56

BURMASOV, S. P., KUROCHIN, K. T., and UMRKHIN, P. V.; Ural Polytechnical Institute

"Nitrogen-Resistant Properties of Basic Martin Slags"

Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy -- Chernaya Metallurgiya, No 9, 1970, pp 45-48

Abstract: An experimental investigation of the nitrogen permeability of slags extracted from a Martin furnace at different times in medium-carbon steel production was conducted at the laboratory of the Ural Polytechnical Institute at 1600, 1650, and 1700°C. The characteristics of the tested slags are given in a table. It was experimentally established, by evaluating the variations in nitrogen concentration in metal and slag during the liquid phase in a nitrogen atmosphere that the basic Martin slags in their entire range of compositions possess high nitrogen-resistant properties in the absence of appreciable convection. Tests were also conducted on the nitrogen solubility in slags with the purpose of considering the degree of divergence between the concentration values obtained and the equilibrium values for partial nitrogen furnace pressure in the atmosphere. The low nitrogen solubility level (0.001%) in slags is explained

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USSR

BURMASOV, S. P., et al., Investiya Vysshikh Uchebnykh Zavedeniy -- Chernaya Metallurgiya, No 9, 1970, pp 45-46

by low thermodynamic stability of nitrides under oxidizing conditions. The increase in nitrogen concentration in metal due to its transfer by slag from the furnace atmosphere can attain thousandths of a percent per hour under conditions of intense mixing of contact phases in the boiling process.

2/2

1/2 017 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--SOLUBILITY OF HYDROGEN IN SILICON -U-
AUTHOR-(03)-KOSTINA, T.K., BAUN, B.A., KUROCHKIN, K.T.
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(1), 117
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, MATERIALS
TOPIC TAGS--HYDROGEN, SOLUBILITY, SILICON, GAS CONTAINING METAL, METAL
CONTAINING GAS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FKAME--1996/0844 STEP NO--UR/0363/70/006/001/0117/0117
CIRC ACCESSION NO--AP0118020

UNCLASSIFIED

2/2 017

UNCLASSIFIED

PROCESSING DATE--18OCT70

CIRC ACCESSION NO--AP0118020

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SOLY. OF HYDROGEN IN SI WAS
DETD. BY USING THE HOT VOL. METHOD. THE H CONTENT IN SI AT THE M.P. AND
AT 28 TORR IS 1.37 TIMES 10 PRIME NEGATIVE3 AT. PERCENT. IT WAS NOT
POSSIBLE TO OBTAIN AN UNEQUIVOCAL ANSWER AS TO WHETHER THE SQUARE ROOT
LAW IS FULFILLED. AT GREATER THAN 1200DEGREES, THE SOLY. DOES NOT
EXCEED 0.099 TIMES 10 PRIME NEGATIVE2 AT. PERCENT (0.9 CM PRIME3-100 G).
FACILITY: URAL. POLITEKH. INST. IM. KIROVA, SVERDLOVSK, USSR.

UNCLASSIFIED

USSR

UDC 669.71.042.62

KUROCHKIN, P. D., KUZNETSOV, V. S., BOGATYREV, V. A.

"Production of Cast Aluminum Strip"

V sb. Novoye v protsessakh goryachey obrabotki met. (What's New in the Processes of Hot Working of Metals -- collection of works), Moscow, Mashinostroyeniye Press, 1971, pp 44-47 (from RZh--Metallurgiya, No 4, Apr 72, Abstract No 4G171)

Translation: A study was made of the problem of producing aluminum strip by the method of casting in a roll crystallizer and the possibility of controlling the aluminum crystallization process. Four illustrations.

1/1

USSR

UDC 669.71.042.62

KUROCHIKIN, P. D., KUZNETSOV, V. S., BORISOV, V. G.

"Solidification of Aluminum Sheet During Continuous Casting in a Roll Crystallizer"

V sb. Novoye v protsessakh goryachey obrabotki met. (What's New in the Processes of Hot Working of Metals -- collection of works), Moscow, Mashinostroyeniye Press, 1971, pp 33-43 (from RZh--Metallurgiya, No 4, Apr 72, Abstract No 4G170)

Translation: The effect of the thermophysical properties of the metal and the forms and conditions of deformation of the crystallizing metal on the process of forming an Al casting in a roll crystallizer is demonstrated. Five illustrations and a 7-entry bibliography.

1/1

USSR

UDC 621.357.5:621.79.027(088.8)

ZASTAVNYY, YE. A., and KUROCHKIN, P. YE., Independent Construction Bureau for Designing Means for the Automation and Control of Electroetching Systems

"Process for Electrochemical Marking"

Avt. sb. SSSR, kl (USSR Authors' Certificate kl. [expansion unknown]), B, 23 pp, 1/16, No 341628, applied 29/08/69, published 11/07/72 (from Referativnyy Zhurnal -- Khimiya, No 7, 1973, Abstract No 7L355P by A. D. Davydov)

Translation: The patented process for the electrochemical etching of goods made of current-conducting metals, such as Ti alloys. The process is distinguished in that in order to eliminate possible destruction of the surface of the etching detail, the object to be etched is not connected to the positive, as is usual, but to the negative terminal of the constant current source. The process is carried out in a weak acid electrolyte such as 8% aqueous solution of ammonium molybdate, using 7-9 volts.

1/1

1/2 020 UNCLASSIFIED PROCESSING DATE--09OCT70
TITLE--MARKING PRODUCTS BY THE ELECTROCHEMICAL METHOD -U-

AUTHOR--(03)--ZASTAVNYY, YE.A., KOZHIN, S.V., KUROCHKIN, P.YE.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, STANKI I INSTRUMENT, NO 2, 1970, PP 26-27

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--ELECTROCHEMISTRY, TECHNICAL STANDARD, ELECTROLYTE, PATENT,
CHEMICAL MARKING AGENT, MACHINE TOOL INDUSTRY, ELECTROLYSIS/OUTERHM2
ELECTROCHEMICAL MARKER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAHE--1993/0883

STEP NO--UR/0121/T9/000/002/0026/0027

CIRC ACCESSION NO--AP0113729

UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--090CT70

CIRC ACCESSION NO--AP0113729

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. THE ELECTROCHEMICAL METHOD MAKES IT POSSIBLE, BY MEANS OF INEXPENSIVE AND HARMLESS ELECTROLYTES, TO MARK VARIOUS PRODUCTS, INCLUDING THIN WALLED PRODUCTS, MADE OF MATERIALS OF ANY DEGREE OF HARDNESS. HOWEVER THE COMPLEXITY, AND SOMETIMES EVEN THE IMPOSSIBILITY OF PRODUCING STENCILS, AND THEIR LACK OF LONGEVITY, RESTRICT THE APPLICATION OF THIS PROMISING METHOD IN INDUSTRY. THIS DRAWBACK IS ELIMINATED VIA USE OF THE STENCILLESS ELECTROCHEMICAL METHOD OF MARKING (AUTHOR'S CERTIFICATE NO 224240), WHICH CONSTITUTES A SPECIAL CASE OF ELECTROLYSIS WITH A SOLUBLE ANODE. THE COMPACT, TABLETOP EKHM-2 INSTALLATION FOR STENCILLESS ELECTROCHEMICAL MARKING HAS BEEN DEVELOPED, TESTED, AND PUT INTO PRODUCTION AT THE LABORATORY OF THE SPECIAL DESIGN OFFICE OF THE MINISTRY OF THE MACHINE TOOL AND TOOL INDUSTRY, USSR. THE TECHNICAL SPECIFICATIONS OF THIS INSTALLATION ARE PRESENTED, ITS OPERATION IS DESCRIBED, AND EXAMPLES OF ITS APPLICATION ARE GIVEN.

UNCLASSIFIED

USSR

UDC 539.1:621.3.082

KUROCHKIN, S. S., KISELEV, L. G., and MURIN, I. D.

"Vector System of Instruments and Units for Nuclear Electronics"

Tr. Soyuz. NII priborostr. (Transactions of the All-Union Scientific Research Institute of Instrument Building) Vyp 18, 1972, pp 90-103 (from Referativnyy Zhurnal -- Metrologiya i Izmeritel'naya Tekhnika, No 1, 1973, Abstract No 1.32.1479)

Translation: The features of the "Vector" system of instruments and units for nuclear electronics of the third generation are examined. High-precision microcomponents and discrete elements, of precision printed circuitry are the basis of the "Vector" system. According to the principles of construction, the logic functions, norms for signals and junctions of the "Vector" system are similar to the foreign systems CAMAC and NIM, however, the system is designed on the basis of native standards and completed articles. The features of the system connected with this and accepted norms of projection are considered. The structure of the system and the basic characteristics of its instruments and units are analyzed. (3 illustrations, 10 bibliographic entries, resume)

1/1

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USSR

UDC 537.311.33(047.1)(47):548.25

KUROCHKIN, V.A., KURKHINEN, G.I., KCRZO, V.F.

"Thin Dielectric Films In Modern Electronics"

V sb. Elektronika i yeye primeneniye--Electronics And Its Applications--
Collection Of Works), Moscow, Izd-vo VINITI, 1971, pp 6p-123

Abstract: This survey is devoted to problems of the theory of conductivity, the technology and the uses of thin dielectric films. In the first chapter some special features are considered of the processes of charge transfer in structures with dielectric layers, specifically in metal-dielectric-semiconductor structures. Special sections are devoted to tunneling, the Schottky and Poole-Frenkel effects, as well as the mechanism for formation of negative resistance. Particular attention is given to disordered systems. In the second chapter recent advances in the technology of preparing thin dielectric films are generalized. In particular, methods are considered of cathode sputtering and pyrolysis of hetero-organic compounds, and also the technology of preparing films of some new materials. Data are presented on the use of dielectric films as passivating and sealing layers. In the third chapter problems of the

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USSR

KUROCHKIN, V. A., et al., Elektronika i yeye primeneniye--Electronics And Its Applications--Collection Of Works), Moscow, Izd-vo VINITI, 1971, pp 69-123

creation of active elements on the basis of dielectric layers are set forth. Particular attention is given to bipolar elements with negative resistances which possess a high switching rate and in some cases a storage effect. The principal parameters are presented of elements based on semiconductor glasses. 6 fig. 3 tab. 218 ref.

2/2

USSR

UDC 616.45-001.1/.3-07[616.153.96+616.4-008.839.6]-074

~~KUROCHKIN, V. I.~~, Pathophysiology Laboratory, Institute of
~~Traumatology and Orthopedics, Kazan'~~

"Properdin and Protein Content of Lymph and Blood During Stress"

Moscow, Byulleten' Eksperimental'noy Biologii i Meditsiny, No 1,
1971, pp 12-13

Abstract: The right hind leg of 10 rabbits was fractured and the properdin and total protein levels in lymph and blood of the injured extremity was determined 12 to 18 hours later. At this time the amount of properdin in blood serum and lymph (from the right popliteal node) was below normal. While total protein decreased in the serum (mainly because of loss of albumins), it increased in the lymph. The fact that the properdin level in lymph and blood did not rise, despite the increase in total protein in lymph, indicates that properdin was retained in the tissues of the injured extremity.

1/1

USSR

UDC 621.347.759:621.312.83

ILIYENKOV, A. I., KURCHEN, V. V., FIGUROVSKIY, Ye. A., of Novosibirsk

"A Digital Instrument for Measuring the Characteristics of Self-heating in Micro Circuits"

Novosibirsk, Avtometriya, No 2, 1970 pp 59-66

Abstract: There are two ways of measuring the effects of self-heating in a micro circuit. One involves holding the input voltage constant and measuring the change in output voltage as the circuit heats, the other, holding the output voltage constant and adjusting the input voltage to maintain it as the circuit heats. Since the output voltage is orders of magnitude greater, it is less demanding for the instrument to hold the input voltage constant.

The majority of this article is devoted to a detailed description of such an instrument designed in the Institute of Automation and Electronic Measurement, Siberian Branch, Academy of Sciences of the USSR. The instrument consists of four major units: an apparatus for adjusting the initial voltage to a working point (defined as half the supply voltage of the collector, since this is the point at which the collector dissipates maximum power), an output voltage divider, an output voltage measurement instrument, and an indicator. The apparatus for adjusting the circuit to a working point and the output voltage measuring instrument are described in detail and illustrated by

USSR

ILIYENKOV, A. I., et al. Novosibirsk, Avtonetriya, No 2, 1970 pp 59-66

additional block diagrams. The initial adjustment apparatus works rapidly, in a pulse mode, so that very little energy is dissipated in the circuit prior to reaching the working point. Since the curve of self-heating is monotonic and approaches its limit asymptotically, additional accuracy is obtained by changing the time intervals between adjacent measurements as a function of the curvature of the path (rate of change of output voltage). The circuits which make this adjustment are described as part of the output voltage measuring unit.

The estimated errors are: 1% due to the change in output power, negligible due to heating before adjustment to the working point, 0.3% due to instrument errors, and 0.4% due to errors in approximation, amounting to a total of 1.7%.

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AUTHOR-- KUROCHKIN, YE., DIRECTOR, PERM SCIENTIFIC-RESEARCH
INSTITUTE OF CONTROLLED MACHINES AND SYSTEMS

TITLE-- AUTOMATION AND THE CONTROL SYSTEM

NEWSPAPER-- SOVETSKAYA ROSSIYA, JANUARY 27, 1970, # 1, COLS 1-3

ABSTRACT-- THE AUTHOR BLAMES THE SHORTAGE OF SPECIALISTS IN
ECONOMICS CYBERNETICS, AUTOMATED CONTROL SYSTEMS, AND ENGINEERING
SOCIAL PSYCHOLOGY AS THE MAIN OBSTACLE WHICH SETS BACK THE IMPLE-
MENTATION OF AUTOMATED SYSTEMS IN THE SOVIET UNION.

41

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1/2 012 UNCLASSIFIED PROCESSING DATE--1606770
TITLE--CONSTANT SPEED D.C. MOTOR -U-
AUTHOR--(04)-TIMOFEEV, B.V., SAMOKHIN, V.P., BOKOVY, YU.V., KURDCHIN,
YU.M.
COUNTRY OF INFO--USSR K
SOURCE--U.S.S.R. 248039
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI NR 23
DATE PUBLISHED--05JAN70
SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR.
TOPIC TAGS--DIRECT CURRENT, ELECTRIC MOTOR, PATENT, SPEED REGULATOR,
TACHOMETER
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FKAME--1998/1523 STEP NO--UR/0482/70/000/000/0000/0000
CIRC ACCESSION NO--AA0121940
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AA0121940

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ILLUSTRATION SHOWN ON MICROFICHE.
CONSTANT SPEED D.C. MOTOR IS SIMPLIFIED IN DESIGN. THE POWER TO THE
MOTOR (4) IS SUPPLIED FROM AN INVERTOR (1) THROUGH A GENERATOR AND
CONTROLLED RECTIFIERS (3). THE SPEED OF THE MOTOR IS CONTROLLED BY
PULSES GENERATED IN THE COMPARISON CIRCUIT (9) BALANCING THE SIGNALS
FROM THE STANDARD POTENTIOMETER (14) AGAINST THE PULSES OF THE
TACHOGENERATOR (5). TYPICALLY FOR THE SPEED CONTROL SYSTEMS A
SELFOSCILLATING ARRANGEMENT IS ESTABLISHED.

UNCLASSIFIED

Adsorption

USSR

KUROCHKINA, M. I.

"Third All Union Theoretical Conference on Adsorption"

Moscow, Teoreticheskiye Osnovy Khimicheskoy Tekhnologii, Vol 5, No 4, Jul-Aug 71, pp 620-622

Abstract: The conference was held Feb 2-6, 71 at the Leningrad Technological Institute. Following topics were covered: 1) kinetics of adsorption and desorption; 2) general problems of the theory of sorption and desorption; 3) theoretical basis for the kinetics and dynamics of the separation processes, and 4) theoretical principles of the engineering methods for calculation of adsorption and desorption processes. Discussion on the first topic was opened by G. M. BLIZNAKOV who covered the papers by G. G. ALEKSANDROV, O. G. LARIONOV, and K. V. CHMUTOV "Kinetics and adsorption of organic liquids by a synthetic powder zeolite CaA" and M. M. DUBININ, K. M. NIKOLAYEV, and N. S. POLYAKOV "Molecular-sieve effects as results of activated character of physical adsorption." He was followed by M. KOCHIRZHIK, and Z. SEDLACHEK. After the paper of P. P. ZOLOTAREV and L. V. RADUSHKEVICH on "Kinetics of physical adsorption of gas or vapor under isothermic or nonisothermic conditions," V. F. FROLOV talked on the inapplicability of

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USSR

KUROCHKINA, M. I., *Teoreticheskiye Osnovy Khimicheskoy Tekhnologii*, Vol 5, No 4, Jul-Aug 71, pp 620-622

the equation of mass transfer to the mechanism of nonstationary adsorption process, and he was followed by N. V. KEL'TSEV on the same subject. The second topic was covered by L. V. RADUSHKEVICH, P. P. ZOLOTAREV, B. V. ADRIANOVA, A. ZIKANOV, N. S. TOROCHESNIKOVA, K. M. NEKOLAYEV, L. SHUYLER, K. Kh. RADEK, and others. O. M. TODES talked about the macrokinetics of the sorption. In addition, D. GELBIN, V. V. RACHINSKIY and L. V. RADUSHKEVICH participated in discussions. The papers of the third topic were authored by S. A. VOLKOV, N. N. MATORINA, A. I. KALINICHEV, V. T. ZHAROV, and O. M. TODES. In the fourth area papers were delivered by P. G. ROMANKOV, V. N. LEPILIN, V. F. FROLOV, T. G. PLACHENOV, A. N. SHIRYAYEV, AND Yu. S. LEZIN. A great interest was aroused by the papers of M. S. SAFONOV on marginal conditions during analysis of the dynamics of adsorption, and of P. G. ROMANKOV on the analysis of physical model for the adsorption and desorption processes.

2/2

1/2 019 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--EFFECT OF CATHODE MATERIAL AND ACIDITY OF THE MEDIUM ON THE
ELECTROREDUCTION OF TETRANITROMETHANE AND NITROMETHANE --U-
AUTHOR--(02)-KUROCHKINA, N.A., KEDRINSKIY, I.A.

COUNTRY OF INFO--USSR

SOURCE--ZH. PRIKL. KHIM. (LENINGRAD) 1970, 43(2), 341-7

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CATHODE, PLATINUM GRAPHITE, PYROLYSIS, ELECTROLYTIC REDUCTION,
NITROMETHANE, TETRANITROMETHANE, HYDROLYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1987/0332

STEP NO--UR/0080/70/043/002/0341/0347

CIRC ACCESSION NO--AP0103987

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PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0103987

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ELECTROCHEM. REDN. OF TETRANITROMETHANE (I) AND NITROMETHANE (II) ON PT, PYROLYTIC GRAPHITE, AND DROPPING HG CATHODE WAS INVESTIGATED AT SATD. AND 0.001 M CONCNS. IN AQ. AND IN 10 VOL. PERCENT ETOH AQ. SOLNS AT DIFFERENT PH. THE ELECTROLYTE WAS 3N NAOL. THE MAX REDN. RATE OF I WAS ON THE PYROLYTIC GRAPHITE CATHODE AT ALL PH VALUES, WHILE FOR II, THE MAX. REDN. RATE WAS IN NEUTRAL SOLNS. ON PT AND IN THE ACIDIC ONES ON PYROLYTIC GRAPHITE. THE REDN. OF I AND ITS HYDRATED COMPLEX TAKES PLACE IN THE 1.0-0.0 V REGION AT PT AND PYROLYTIC GRAPHITE CATHODES. THE REDN. OF CHINO SUB2) SUB3, FORMED BOTH BY ELECTROCHEM. REDN. OF I AND ITS HYDROLYSIS, OCCURS AT 0.0 TO MINUS 0.6 V. IT IS PROPOSED THAT THE ACIDITY AND THE CATHODE MATERIAL AFFECT ONLY THE RATE OF I HYDROLYSIS. FOR II, NO STEPS WERE OBSERVED ON THE POLAROGRAPHIC CURVE, BUT THE POTENTIAL IS SHIFTED TO THE MORE POS. VALUES.

UNCLASSIFIED

USSR

UDC 621.7.016.2

KUROCHKINA, P. D., (Editor)

"New Processes of Hot Working of Metals"

Novoye v Protsessakh Goryachey Obrabotki Metallov [English Version Above],
Mashinostroyeniye Press, Moscow, 1971, 167 pages.

Translation of Annotation: This collection presents the results of theoretical and experimental studies of processes of hot working of metals.

Most of the works deal with the study of the structure and properties of cast iron, carbon and alloy steels, and special alloys. Data are presented on the use of nitrided ferrochrome for improvement of the structure of cast iron, on the method of production of cast aluminum strip, the properties of iron-nickel base alloys, etc.

Problems are studied of the production of good quality castings of various alloys. Results are presented from studies of the possibility of using blast furnace cast iron for casting of pipe, from studies of the technological parameters of the process of continuous casting of aluminum, etc.

Results are presented from studies of processes of welding and soldering of iron-carbon, magnesium, titanium, and other alloys. Many works deal with hot working of metals by pressure.

This collection is designed for engineering and technical workers at machine building enterprise and scientific research institutes.

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USSR

UDC 621.7.016.2

KUROCHKINA, P. D., Novoye v Protsessakh Goryachey Obrabotki Metallov, Mashinostroyeniye Press, Moscow, 1971, 167 pages.

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UDC 621.7.016.2

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UDC 621.7.016.2

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Acc. Nr: **AP0047632** Abstracting Service:
CHEMICAL ABST. 5-70

Ref. Code:
4P0080

K

104604c Saturated vapor pressure over aqueous solutions of potassium carbonate. Puchkov, L. V.; Kurochkina, V. V. (Leningrad. Tekhnol. Inst. im. Lensoyeta, Leningrad, USSR). Zh. Prikl. Khim. (Leningrad) 1970, 43(1), 181-3 (Russ). Pressure of satd. vapor over $K_2CO_3-H_2O$ soln. was detd. at 25, 40, 50, 60, 70, 80, and 90° and the results are tabulated. The system shows a pos. deviation from Raoult's law in dil. solns. and a neg. deviation in more concd. solns. Activity coeffs. of K_2CO_3 at 25° and 0.1-8M K_2CO_3 concns. are given. HMYR

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Instrumentation and Equipment

USSR

UDC 669.71.472(088.8)

BELYAYEV, A. S., BEKTASOV, O. A., VOVK, P. A., KUROKHIN, A. N., NEKHOROSHEV, V. S.

"Device for Measuring the Weld Packing Density of the Bottom of an Aluminum Electrolyzer and the Bottom Mass Temperature"

USSR Author's Certificate No 272567, Filed 23 Dec 68, Published 7 Sep 70
(from RZh-Metallurgy, No 4, Apr 71, Abstract No 4G161F)

Translation: The device includes a thermocouple and a galvanometer. For purposes of simultaneous measurement of the weld packing density and temperature of the anode mass, the device comprises a housing with sockets for arrangement of measuring instruments, a hollow connecting rod with a tip inside which a thermocouple is installed, and a short-circuiting device needle. The upper part of the connecting rod has an inclined plane for deflection of the density indicator needle, and the junction of the thermocouple is electrically connected to the short-circuiting device needle and the galvanometer. There are 3 illustrations.

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USSR

UDC 621.039.53

KIROLENKIN, Ye. I., BURDAKOV, N. S., VIRGIL'YEV, Yu. S., OSTROVSKIY, V. S.,
TURDAKOV, V. N., CHURILOV, Yu. S.

"Influence of Oxidation on Strength Properties of Graphite"

Atomnaya Energiya, Vol 32, No 4, Apr 72, p 312.

Abstract: This short article studies the influence of the degree of oxidation on compressive strength and on volumetric weight, characterized by porosity, for two commercial types of structural graphite, types GMZ and MPG. Studies were performed using cylindrical graphite specimens, 8 mm in diameter and 80 mm long, which were oxidized in an electric furnace in air at 700°C. The degree of oxidation was determined by weight loss of the specimen. It was found that at a 600-800°C oxidation temperature, the drop in volumetric weight occurs primarily in the surface layer. This agrees with the two-stage mechanism of oxidation of graphite, showing that in this temperature interval the process is intermediate between kinetic and diffusion processes. Graphs are presented showing the change in compressive strength and volumetric weight of the graphite with degree of oxidation.

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Graphite

UDC 661.666.2.002.3:539.431.1

USSR

VIRGIL'YEV, YU. S., KUROLENKIN, YE. I., MAKARCHENKO, V. G., and PEKAL'N,
T. K., Moscow

"Dependence of the Strength Properties of Graphite On the Processing Temperature"

Kiev, Problemy Prochnosti, No 11, Nov 73, pp 43-46

Abstract: The article deals with the change of some strength properties of three carbon materials in relation to the processing temperature. The first two tested materials, GZ and KPG, are based on KNPS petroleum coke. GZ was baked at 1300°C, and KPG was unbaked. The third material, ER, is a composition of natural graphite with semicoke. The change compositions of the first two materials are similar with respect to coarseness, but the structural features of KPG, owing to the use of unbaked coke, predetermined its higher strength characteristics in comparison to GZ. A study was made of the temperature relationships, in the region of processing temperatures of 1300-3000°C, of the strength characteristics: compression strength, the modulus of elasticity, and the hardness of carbon materials, and the relationship of these characteristics to the crystalline structure. Decreased values of the indicated parameters were noted as the processing temperatures rose. A relationship was established between the strength and the diameter of the

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USSR

VIRGIL'YEV, YU. S., et al., Problemy Prochnosti, No 11, Nov 73, pp 43-46

region of coherent dispersion within the processing-temperature interval of 2000-3000°C, and an evaluation was made of the effect of the internal unit surface of the pores on the strength at temperatures below 2000°C. Three figures, two tables, sixteen references.

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